

Application No. 10/673779
Page 3

Amendment
Attorney Docket No. 011.2B-11335-US01

Amendments To The Claims:

BEST AVAILABLE COPY

1. (Previously presented) A polishing composition used in precision polishing a wafer surface, the polishing composition comprising:

colloidal silica, wherein an average primary particle diameter D_{p} of the colloidal silica, which is obtained from a specific surface area of the colloidal silica measured by a BET method, is from 5 to 30 nm; wherein an average secondary particle diameter D_{N4} of the colloidal silica, which is measured by a laser scattering method, is from 5 to 120 nm;
an alkaline compound;
a water-soluble polymer; and
water.

2. (Previously presented) The polishing composition according to claim 1, wherein the average primary particle diameter D_{p} of the colloidal silica is from 5 to 25 nm.

(Previously presented) The polishing composition according to claim 2, wherein the average primary particle diameter D_{p} of the colloidal silica is from 5 to 20 nm.

(Original) The polishing composition according to claim 1, wherein the average secondary particle diameter D_{N4} of the colloidal silica is from 5 to 100 nm.

(Original) The polishing composition according to claim 4, wherein the average secondary particle diameter D_{p} of the colloidal silica is from 5 to 80 nm.

6. (Canceled) The polishing composition according to claim 1, wherein the silicon dioxide is colloidal silica.

(Original) The polishing composition according to claim 1, wherein the water-soluble polymer is at least one selected from hydroxyethyl cellulose, polyvinyl alcohol, and polyethylene oxide.

Application No. 10/673779
Page 4

Amendment
Attorney Docket No. 011.2B-11335-US01

BEST AVAILABLE COPY

8. (Original) The polishing composition according to claim 7, wherein the water-soluble polymer is hydroxyethyl cellulose.

9 (Original) The polishing composition according to claim 8, wherein content of the hydroxyethyl cellulose in the polishing composition is from 0.005 to 1.5 wt%.

10. (Original) The polishing composition according to claim 1, wherein the alkaline compound is at least one selected from potassium hydroxide, sodium hydroxide, ammonia, tetramethylammonium hydroxide, anhydrous piperazine, and piperazine hexahydrate.

11. (Withdrawn) A method of polishing a wafer, the method comprising:

preparing a polishing composition, wherein the polishing composition includes:

colloidal silica,

wherein an average primary particle diameter D_{SA} of the colloidal silica, which is obtained from a specific surface area of the colloidal silica measured by a BET method, is from 5 to 30 nm; wherein an average secondary particle diameter D_N of the colloidal silica, which is measured by a laser scattering method, is from 5 to 120 nm;

an alkaline compound;

a water-soluble polymer; and

water; and

precision polishing a surface of the wafer using the polishing composition.

12. (Canceled) A polishing composition used in precision polishing a wafer surface, the polishing composition comprising:

fumed silica, wherein an average primary particle diameter D_{SA} of the fumed silica, which is obtained from a specific surface area of the fumed silica measured by a BET method, is from 5 to 25 nm; and wherein an average secondary particle diameter D_N of the fumed silica, which is measured by a laser scattering method, is from 5 to 200 nm;

Application No. 10/673779
Page 5

Amendment
Attorney Docket No. 011.2B-11335-US01

an alkaline compound;
a water-soluble polymer; and
water.

BEST AVAILABLE COPY

precision polishing a surface of the wafer using the polishing composition.

13. (Canceled) The polishing composition according to claim 12, wherein the average primary particle diameter D_{SA} of the fumed silica is from 5 to 20 nm.

14. (Canceled) The polishing composition according to claim 12, wherein the water-soluble polymer is at least one selected from hydroxyethyl cellulose, polyvinyl alcohol, and polyethylene oxide.

15. (Canceled) The polishing composition according to claim 14, wherein the water-soluble polymer is hydroxyethyl cellulose.

16. (Canceled) The polishing composition according to claim 15, wherein content of the hydroxyethyl cellulose in the polishing composition is from 0.005 to 1.5 wt%.

17. (Canceled) The polishing composition according to claim 12, wherein the alkaline compound is at least one selected from potassium hydroxide, sodium hydroxide, ammonia, tetramethylammonium hydroxide, anhydrous piperazine, and piperazine hexahydrate.

18. (New) The polishing composition according to claim 1, wherein the content of colloidal silica in the polishing composition is from 0.1 to 40 wt%.

19. (New) The polishing composition according to claim 18, wherein the content of colloidal silica in the polishing composition is from 1 to 20 wt%.

20. (New) The polishing composition according to claim 8, wherein the content of the hydroxyethyl cellulose in the polishing composition is from 0.05 to 0.5 wt%.

BEST AVAILABLE COPY

Application No. 10/673779
Page 6

Amendment
Attorney Docket No. 011.2B-11335-US01

21. (New) The polishing composition according to claim 8, wherein the average molecular weight of the hydroxyethyl cellulose is from 300,000 to 3,000,000.
22. (New) The polishing composition according to claim 10, wherein, when the alkaline compound is at least one of potassium hydroxide, sodium hydroxide, ammonia, and tetramethylammonium hydroxide, the content of the alkaline compound in the polishing composition is from 0.01 to 8 wt%.
23. (New) The polishing composition according to claim 22, wherein the content of the alkaline compound in the polishing composition is from 0.1 to 3 wt%.
24. (New) The polishing composition according to claim 10, wherein, when the alkaline compound is anhydrous piperazine, the content of the alkaline compound in the polishing composition is from 0.005 to 3 wt%.
25. (New) The polishing composition according to claim 24, wherein the content of the alkaline compound in the polishing composition is from 0.05 to 1.5 wt%.
26. (New) The polishing composition according to claim 10, wherein, when the alkaline compound is piperazine hexahydrate, the content of the alkaline compound in the polishing composition is from 0.01 to 6 wt%.
27. (New) The polishing composition according to claim 26, wherein the content of the alkaline compound in the polishing composition is from 0.2 to 1 wt%.
28. (New) A polishing composition used in precision polishing a wafer surface, the polishing composition comprising:
- colloidal silica, wherein an average primary particle diameter D_{SA} of the colloidal silica, which is obtained from a specific surface area of the colloidal silica measured by a BET method, is from 5 to 20 nm, wherein an average secondary particle diameter D_{N4} of the colloidal silica, which is measured by a laser scattering method, is from 5 to 80 nm, and wherein the content of

Application No. 10/673779
Page 7

Amendment
Attorney Docket No. 011.2B-11335-US01

colloidal silica in the polishing composition is from 0.1 to 40 wt%;

an alkaline compound, wherein the alkaline compound is at least one selected from potassium hydroxide, sodium hydroxide, ammonia, tetramethylammonium hydroxide, anhydrous piperazine, and piperazine hexahydrate;

a water-soluble polymer, wherein the water-soluble polymer is at least one selected from hydroxyethyl cellulose, polyvinyl alcohol, and polyethylene oxide; and water.

BEST AVAILABLE COPY